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ABSTRACT

The Career Exploration for Elementary Children (CEC) project is a 3-year curriculum development effort begun in 1972 at the Perrysburgh, Ohio, Elm Street Elementary School. The three major desired outcomes of the project are: (1) development of a curriculum model for career exploration at the elementary school level, (2) the development of an instructional system to implement the curriculum model, and (3) the evaluation of the instructional system materials and outcomes. The CEC project is involved in achieving career development behaviors at the K-6 levels primarily within the following three domains: (1) concepts of self, (2) economic-occupational and educational concepts and skills, and (3) work values and attitudes. Brief descriptions of the awareness and accommodation stages follow. A basic characteristic of the CEC project is its relevance on activity-based experiences to achieve desired behavioral outcomes. The CEC developed a Curricular Language which is discussed in detail in Appendix A. The CEC staff then established guidelines in the form of eight principles of career development to be used in elementary career education. Also included is a 34-item bibliography. (BP)

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CAREER EXPLORATION FOR CHILDREN

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ED 094161

CAREER EXPLORATION FOR ELEMENTARY CHILDREN:

A CURRICULUM MODEL

written by

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in collaboration with

The
Career Exploration for Elementary Children
Project Staff

CAREER EXPLORATION FOR ELEMENTARY CHILDREN PROJECT
ELM STREET ELEMENTARY SCHOOL
AND ST. ROSE PAROCHIAL SCHOOL
PERRYSBURG, OHIO
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PREFACE

The Career Exploration for Elementary Children project is a three-year curriculum development effort begun in September 1972 at the Perrysburg, Ohio, Elm Street Elementary School in association with the Career and Technology Education Graduate Faculty at Bowling Green State University. The project is supported by Elementary and Secondary Education Act (ESEA), Title III funds provided by the Ohio Department of Education. The broad goals of the project are to (1) develop a curriculum model for career exploration at the elementary school level, (2) develop an instructional program to implement the model, and (3) assess the effectiveness of the program.

The following paper introduces and discusses the model which will guide curriculum development, implementation, and evaluation. The model and rationale have been developed by Dr. Larry J. Bailey in consultation with the Career Exploration for Elementary Children project staff. The project staff involved were:

Directors:	Samuel W. Lucas Jean M. Jensen	
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ORIENTATION TO THE PROJECT

Commensurate with the emergence of career education at the National level, a concern for more relevant and concrete classroom activities has developed in many local education agencies. One such agency is the Perrysburg Exempted Village School District in Wood County, Ohio. Early in 1969 selected teachers at the Elm Street Elementary School began to explore ways of vitalizing the elementary school curriculum. These teachers perceived the need to infuse existing elementary subject areas with content and activities drawn from the "world of work". The rationale for this approach is based both on the pedagogical dictate of making learning more concrete and relevant, and also to begin to develop world of work concepts and occupational awareness to serve as foundations for students' career planning and decision-making. Due to the change from an agrarian economy to a more technological and service oriented economy, " . . . the family as a source of occupational learning has declined as it lost its place as the central productive institution of society" (Coleman, 1972a, p. 226). Since the school has made little attempt to assume the responsibility for career development formerly provided by the family, a void exists in the educational and occupational preparation of youth for adulthood. In describing the changing structure of society, James Coleman in a recent essay entitled "The Children Have Outgrown the Schools" observes that while " . . . our society has become information rich, it has also

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become action poor" (Coleman, 1972b, p. 73).

As a response to these conditions, Perrysburg teachers have been developing concrete, group activities correlated with the existing curriculum to provide relevant and individually rewarding student experiences involving a wide variety of materials, skills, and tools. Their efforts have continued to evolve resulting in (1) widespread community involvement and support, (2) school administrative endorsement and encouragement, (3) and in-service education courses and pilot program implementation in cooperation with Bowling Green State University. With this beginning, the school district sought and acquired ESEA Title III financial support to expand the on-going development effort.

PURPOSE AND GOALS

The primary purpose of the Career Exploration for Elementary Children (hereafter referred to as Career Exploration for Children [CEC]) project is to develop an activity-centered career development program that can be integrated into the existing elementary school curriculum. The program activities will be designed to provide children with career related experiences that permit the exploration of potential occupational roles through simulated group work activities. These activities will help prepare children to make more valid personal, educational and career decisions based on self-knowledge and awareness of available career options.

The three major desired outcomes of the project are:

1. The development of a curriculum model for career exploration at the elementary school level.
2. The development of an instructional system to implement the curriculum model.
3. The evaluation of the instructional system materials and outcomes.

DEFINITION OF TERMS

Observers of career education have expressed concern regarding the absence of a simple and all-inclusive definition of career education. There has been a concern to differentiate between career education (a concept and a program) and career development (a process used to describe an individual's career behavior).

> Career education refers to educational programs and curriculums at many different developmental levels, and provided by several types of delivery systems, which provide experiences designed to help individuals become oriented to, select, prepare for, enter, become established, and advance in an individually satisfying and productive career. Basic to the concept of career education is the recognition that preparation for a career role must begin in early childhood if the individual is to develop the concepts, attitudes, and skills which insure freedom of choice and expand career options. Career education eliminates artificial distinctions between "general" and "vocational" education by fusing the two in a manner which enables the student to better solve personal, social, and career related problems (Bailey and Stadt, 1973, pp. 346-347).

> Career development is a term used to describe the accumulation of individual behaviors related to work, both before and after entry into an occupation. It is a developmental, continuously iterative process which progresses from infancy throughout adulthood like an expanding spiral. In curricular terms, career development refers to the behavioral outcomes of career education, primarily those related to self development; career planning and decision-making; and work attitudes, values, concepts and skills (Bailey and Stadt, 1973, p. 347).

ACTIVITY LEARNING -- The process of gaining experience through interaction (any overt behavior displayed by the child) with objects, people and situations.

THE EVOLUTION OF CAREER EDUCATION

Nearly two years after former Commissioner of Education, Sidney P. Marland's (1971) Career Education Now speech, the typical educator has little understanding of what career education is or why it has come about. Inherent in the career education concept are the following four antecedents (Bailey, 1972).

Failures and inhumanity of the educational institution

The list of failures of the American public schools is endless. Examples of these failures are excessive dropout rates, high unemployment, student discontent, and loss of public confidence. Pucinski and Hirsch (1971, pp. 6-7) in their book The Courage to Change have identified the most glaring deficiency in education: "Its content for the most part is empty, dull, and meaningless to students; too often, it has no immediate relationship to the adult world they will face; and in too many cases it lacks humanness." The need to develop more viable educational programs in the face of massive failures has clearly influenced the career education responses within the U. S. Office of Education and the National Institute of Education.

Reorientation of vocational education

The Vocational Education Act of 1963 provided the stimulus for a reorientation in the nature of vocational education. The 1963 Act was the product of a growing sensitivity to human welfare. Its emphasis was upon the people who needed skills rather than upon the occupations which

needed skilled people. This emphasis on individual needs was reaffirmed by the Advisory Council on Vocational Education appointed by former President Johnson to evaluate the 1963 Act. The following important conclusion of the Advisory Council (1968, p. 49) is inherent in the new career education emphasis. "Orientation and assistance in vocational choice may often be more valid determinants of employment success, and therefore more profitable use of educational funds, than specific skill training."

Recognition of career development theory

The recent surge of findings and theoretical speculations from occupational sociology, developmental psychology, vocational psychology, decision theory and information theory have identified many of the factors which facilitate or impede career development. These factors can help or hinder individual aspirations and plans of action which lead to placement in the labor market and to development of occupational identity. While career development theory is not as comprehensive or prescriptive for women or for the disadvantaged segment of society as is necessary, that which is presently known provides a sufficient context for developing curricular and instructional approaches to aid the development of effective vocational behavior (Herr, 1970).

Emergence of Process Education

Curriculum development is often characterized by divergent views on the relative importance of content as opposed to process.[1] A content-

[1] See Cole (1972) for a scholarly account of process education.

oriented curriculum is one which emphasizes the learning of a related body of facts, laws, theories, and generalizations. The concern for educational excellence during the post-Sputnik era is primarily responsible for the current insistence in teaching for the mastery of content. When the stress is upon process (as it should be in career development education), greater importance is attached to the methods of acquiring knowledge and to its future utilization.

CEC MODEL: ANALYSIS

The Career Exploration for Children model has been derived from Bailey and Stadt's (1973) career education curriculum framework (hereafter referred to as the parent model) shown in Figure 1. The parent model consists of four developmental stages corresponding to the common educational levels of primary elementary, intermediate elementary, junior high, and high school. These stages provide guidelines and direction for the systematic development of CEC curriculum materials. For each of the four stages, six domains of career development behaviors have been identified. These behaviors may be regarded as "sub-processes" of career development. They are used as the basis for formulating educational goals at each developmental stage. The scope of the original model, however, is considerably more comprehensive than the CEC project's resources and timetable.[2] The parent model and the CEC model are shown graphically in Figures 1 and 2 respectively.

The CEC project is involved in achieving career development behaviors at the K-6 levels primarily within the following three domains: (1) concepts of self, (2) economic-occupational and educational concepts and skills, and (3) work values and attitudes (Figure 2). The project staff does not wish to infer that behaviors in the other three domains are any less significant. Rather, the staff has undertaken the development of activities which are in keeping with their primary interests and expertise. Brief descriptions of the Awareness and Accommodation Stages follow:

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[2]Note: In fact, the validation, development and implementation of the model could involve the majority of all education throughout the current decade.

A DEVELOPMENTAL CURRICULUM MODEL FOR CAREER EDUCATION

Domains of Career Development Behaviors	A. Awareness K-3	B. Accommodation 4-6	C. Orientation 7-8	D. Exploration and Preparation 9-12
1. Concepts of self	A1	B1	C1	D1
2. Occupational, educational and economic concepts and skills	A2	B2	C2	D2
3. Sense of agency	A3	B3	C3	D3
4. Information processing skills	A4	B4	C4	D4
5. Interpersonal relationships	A5	B5	C5	D5
6. Work attitudes and values	A6	B6	C6	D6

Figure 1

Source: Bailey, L.J. and Stadt, R.W., Career Education: New Approaches to Human Development, McKnight and McKnight, 1973, p. 350.

CEC MODEL FOR CAREER EDUCATION

Domains of Career Development Behaviors	-A- Awareness				-B- Accommodation		
	K	1	2	3	4	5	6
1. Concepts of self	A1-K	A1-1	A1-2	A1-3	B1-4	B1-5	B1-6
2. Economic-Occupational and Educational Concepts and Skills	A2-K	A2-1	A2-2	A2-3	B2-4	B2-5	B2-6
3. Work Values and Attitudes	A3-K	A3-1	A3-2	A3-3	B3-4	B3-5	B3-6
	1972-73			1973-74		1974-75	

Figure 2

Awareness Stage, Grades K-3

The functions of career education during this stage are those of helping the child to develop behaviors which are the forerunners of more effective and mature career development outcomes. More specifically:

1. The child needs to be exposed to the ingredients of concepts. From knowledge of facts and their relations to each other, the child can evolve precise, stable, and complete conceptions.

2. Since the child is learning how to generalize, symbolize, and apply a specific concept to a variety of situations, he needs guidance and practice in the efficient, harmonious, and productive development of these skills.

Goals for the Awareness Stage:

A1. Awareness of self

In early childhood the individual begins the process of self concept formation which continues throughout his life. Initially, the child gathers sensory impressions (i.e., "self percepts") related to his physical configuration and his capabilities (Super, 1963). Gradually, he begins to organize his perceptions into higher-order generalizations and, finally, into simple self-concepts. Emphasis on self awareness, and differentiation of self from others helps the child develop a repertoire of self percepts which becomes the foundation for more accurate, and comprehensive self-concepts.

A2. Awareness of different types of occupational roles

The young child perceives people performing different types of work activities, but is not able to conceptualize differences among them (Goodson, 1970, Zimmermann and Bailey, 1971). For example, the child does not distinguish between the work that his parents may do in an occupation outside the home from the "work" that is done within the home, and from hobby and/or volunteer activities done in addition to an occupation. This goal recognizes that the child must be helped to differentiate among different types of work activities so as to evolve an accurate conception of an occupation.

A3. Development of respect for others and the work that they do

Probably at no other time does the individual have as high a regard

for work as he does in early childhood. The tendency for children to play at work is well known. The question is not one of should attitudes toward work be taught in early elementary school. Students do in fact possess work attitudes. Generally these are favorable. Rather, at issue is how to preserve positive attitudes so they may be used as foundation for more realistic attitudes and understandings (Herr, 1970).

Accommodation Stage, Grades 4-6

During the Awareness Stage the child is perceptually oriented; he makes judgments in terms of how things look to him. In the intermediate years of education, which correspond approximately to Piaget's stage of concrete operations the child is more able to conceptualize, to solve problems, and to give explanations in terms of concrete data. The most important changes in cognitive development that take place with increasing age have been summarized by Vinacke (1972, pp. 142-143) as follows:

1. Progression from single to complex concepts . . .
2. Progression from diffuse to differentiated concepts . . .
3. Progression from egocentric to more objective concepts . . .
4. Progression from concrete to abstract concepts . . .
5. Progression from variable to more stable concepts . . .
6. Progression from inconsistent to more consistent and accurate concepts . . .

These changes are continuous and cumulative and are not confined solely to the intermediate level of elementary education. The significance of these changes, however, is their rapid rate of acceleration during grades four to six.

Goals for the Accommodation Stage:

B1. Development of concepts related to self

In this phase, the child begins to conceptualize what he formerly only perceived (Antholz, 1972). "Self concepts are self percepts which have

acquired meaning and which have been related to other self percepts. A self concept is the individual's picture of himself, the perceived self with accrued meanings." (Super, 1963, p. 18). Operationally, self-concept development at this level takes the form of helping students develop greater "self-understanding". An important aspect of self-understanding is the provision for periodic assessment of growth and learning, and the assimilation of new information. By becoming more fully aware of characteristics of the process of change which mark growth and development, the child can (1) begin to develop a better understanding of self at a certain point in time, i.e., a concept of becoming, and (2) recognize that his understanding of self is constantly changing, i.e., he is in a process of becoming.

B2. Development of concepts related to the world of work

At this level, the child moves from perceptualization of work activities and simple generalizations, such as goods and service workers, to more sophisticated concepts. If the child is to differentiate among thousands of occupations, he must be helped to develop a "cognitive map" which will serve as a conceptual framework for later occupational orientation and exploration. The emphasis should be on learning (1) what is the world of work and how it has evolved, (2) why occupations exist, (3) what is work, and (4) why people pursue various types of work activity (i.e., occupations) (Van Rooy and Bailey, 1972).

B3. Development of work attitudes and values

During the previous stages, the child manifests work attitudes and values by taking the role of various workers. As the child becomes better able to conceptualize, his basis for choice becomes more rational. "Since living requires choosing between values, which are more or less desirable objects or modes of action, and since many important life situations require a choice between two or more values, the growing child must develop a scale of values which will enable him to make a stable choice and to hold himself to these choices" (Havighurst, 1953, p. 36).

THE RATIONALE FOR ACTIVITY ORIENTED INSTRUCTION

A basic characteristic of the CEC project is its reliance on activity-based experiences to achieve desired behavioral outcomes. The rationale for this approach is derived primarily from the psychology of Jean Piaget and John Dewey. While this review of related literature is brief, suffice it to say that activity-based instruction is firmly grounded in educational theory, career development theory, and the principles of child growth and development.

In the organization of formal education the child's behavior should be the basis for curriculum, the major focus and the primary outcome. A child's development should determine educational standards (Dewey, 1902). Subject matter areas are subservient to the growth and development of the child; they are instruments to be valued to the extent that they facilitate a child's development and contribute to the achievement of previously stated behavioral goals.

A child's life is made up of a series of integrated activities. He passes quickly and readily from one to the other and is usually not conscious of the transition. Conscious isolation does not exist and there is hardly any conscious distinction. Events and objects that occupy the child are made personally relevant by the unity of social and personal interest which permeates his life (Dewey, 1902, p. 5). A child's experiences rarely become internalized unless they touch intimately and obviously, his own well being, or that of his family or friends.

A child can observe objects and situations and later talk about them accurately. A child can listen to a story and pass it along. A child can

watch a movie and relate the plot to others. Children seem to have a "natural curiosity", a "love of knowledge, an inherent wish to learn", (Skinner, 1968, p. 109). Education should take advantage of these natural endowments and help the student to better relate to the world he is to learn about and live in. However, even with the aid of all types of media, only a small portion of the external world can be brought into the classroom. As a result, words (abstract symbols) have been attached to these objects and situations. Because of the ease of teaching facts and verbal symbols, educational practice has dangerously overemphasized vicarious experiences and passive learning. Education is neglecting to provide concrete situations where children can acquire first-hand experience (Dewey, 1916). Emphasis on discipline and subject matter content rarely provide opportunities for children to have more direct experiences as they actually occur in real life. Flexible, personal experiences should be promoted which call for directed activities in work and play. Because each individual has something characteristic in his way of doing things, the methods used will vary with individuals (Dewey, 1916, p. 168).

A child by nature is intensely active. A teacher should not regard the child as a passive learner who must be motivated to engage in active learning. The task of instruction is to capitalize on the child's natural interests and motivation to make learning more individually relevant. Gaming, role playing and simulation are valued in education as alternatives to the tedium and sterility of traditional classroom practices. This should not be construed to mean that such methods are only "agreeable diversions" (Dewey, 1916). The fundamental worth of the child's natural tendencies to explore, to manipulate, to construct, to give expression to

joyous emotion is supported by studies of learning processes.

When exercises prompted by these natural tendencies are part of the regular school program, the "whole" pupil is engaged. The artificial gap between life in school and out of school is reduced. Play and active work have a definite place in the curriculum.

> . . . for these reasons a good school should encourage a child's activity, and his manipulation and exploration of objects. When the teacher tries to bypass this process by imparting knowledge in a verbal manner, the result is often superficial learning. But by promoting activity in the classroom, the teacher can exploit the child's potential for learning, and permit him to evolve an understanding of the world around him. This principle (that learning occurs through the child's activity) suggests that the teacher's major task is to provide for the child a wide variety of potentially interesting materials on which he may act. The teacher should not teach, but should encourage the child to learn by manipulating things. (Ginsburg & Opper, 1969, p. 221).

The acceptance of this principle of active learning will require a reorientation of educational practices. According to Piaget, the child does not learn facts if the teacher transmits them; he must discover them for himself. The role for the teacher thus becomes that of providing experiences for the child to allow him to employ all of the senses in cognitive, affective and sensory learning. The CEC project was conceived as a beginning toward that ultimate goal.

"CURRICULAR LANGUAGE"[3] OF THE CAREER EXPLORATION FOR CHILDREN PROJECT

BASIC PURPOSE The Career Exploration For Children project is designed to develop exploratory, or activity-centered, experiences for elementary children (K-6), that will help to make academic subjects more concrete and relevant but also to provide students with a foundation to make later career decisions based on self knowledge and awareness of available options.

EDUCATIONAL THEORY According to Bailey and Stadt (1973), from birth to about age five or six, the child displays inductive processes of learning. That is, exposure to objects through manipulation, observation, and use leads to familiarity on the basis of which the child forms generalizations about them. About ages six to eight the child begins to shift from inductive processes to more deductive behavior. Awareness of concrete, perceptually known properties of, and relations between objects, gives way to grouping and abstract, symbolic behavior. The child begins to employ already formed generalizations to deal appropriately with new objects, or with familiar objects in new ways. In the period from about age nine to eleven, certain mental operations begin to manifest themselves; i.e., the ability to be aware of previous thought. The intermediate years of education are the times of intellectual development when the child is able to solve problems and give explanations in terms of concrete data.

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[3] See Appendix A, step one in the curriculum development sequence.

LEARNING PROCESS From a teaching standpoint, the Career Exploration For Children project will attempt to build into the curriculum, concrete learning activities. Techniques such as role playing, gaming and simulation, and problem solving will receive high priority in conjunction with personal guidance experiences. Throughout the CEC curriculum, students will be required to make decisions concerning themselves and careers. The quality of these decisions will be determined only by the process the student goes through and not by the specific response. There should be no predetermined right or wrong answers conveyed through either the instructional system or by the teacher.

RATIONALE We believe a vacuum exists in the contemporary school curricula. This is a belief shared by many interested citizens, educators, and legislators. This vacuum exists where a bridge should be. That is, a bridge between the school and a productive, satisfying career. There is considerable evidence in recent years that teachers are becoming more aware of the need to emphasize relevant and humanistic education. Each child should be made aware that it is not wrong to have different ideas or different goals than other children. Youngsters should have increased personal freedom to make career choices based on an understanding of the tremendously varied opportunities available in contemporary society. While the direction of education is currently changing, the future should be devoted to developing flexible approaches to education and career determination.

ASSUMPTIONS Following are the assumptions which reflect the CEC staff's interpretation of the nature of career development. These are summarized

in the form of eight principles of career development.

1. Career development is one aspect of an individual's overall pattern of growth and learning.
2. Career development is a long term evolutionary process, beginning in infancy and extending throughout adulthood.
3. Career development is the summation of a complex series of career-related decisions made by the individual over a considerable span of time.
4. An individual's striving to arrive at an appropriate occupational goal may be interpreted as an attempt to implement his self-concept.
5. Career development proceeds through a series of culturally induced developmental periods or life stages.
6. Each developmental life stage involves meeting and coping with increasingly complex developmental tasks.
7. Development through the life stages can be guided. The knowledge, skills, attitudes, and motivation essential for coping with the developmental tasks can be fostered and developed. Career decision-making can be done on rational bases.
8. The degree of mastery of a developmental task and the quality of an occupational decision is a function of the type, amount, and validity of data and experiences to which the individual has been exposed (Bailey and Stadt, 1973, pp. 348-349).

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APPENDIX A

AN APPROACH TO SYSTEMATIC CURRICULUM DEVELOPMENT

A gap exists between the major priority status accorded career education by the U. S. Office of Education and the actual career education curriculum components presently being developed. To date, curriculum specialists have been content to develop teaching resource guides which consist primarily of suggested classroom activities and recommended commercial curriculum materials. These activities are for the most part, loosely organized supplemental instructional units emphasizing lower-level cognitive behaviors. These activities are inadequate to develop the behaviors required for self understanding, career decision-making, and preparation for employment. This situation is also a serious indictment of the career education professional's lack of familiarity with the fundamentals of curriculum development. If career education is going to be anything more than a temporary fad, systematic programs of curriculum development and implementation are required. This task is made possible through application of the theory and technology of curriculum.

During the 1960's, primarily as a result of <u>developmental</u> curriculum projects in mathematics, the sciences and industrial arts, a pattern for the curriculum development process began to emerge. Figure 3 represents a synthesis of the five major steps involved in curriculum development. This synthesis, or "curriculum model", serves as an example of the type of framework which is (1) general enough to guide curriculum development regardless of level, subject area, philosophy, or specific type of curriculum and (2) realistic in terms of how curriculum actually evolves. Each of these five major steps involves more specific activities.

OVERALL STRUCTURE FOR A GENERAL CURRICULUM MODEL

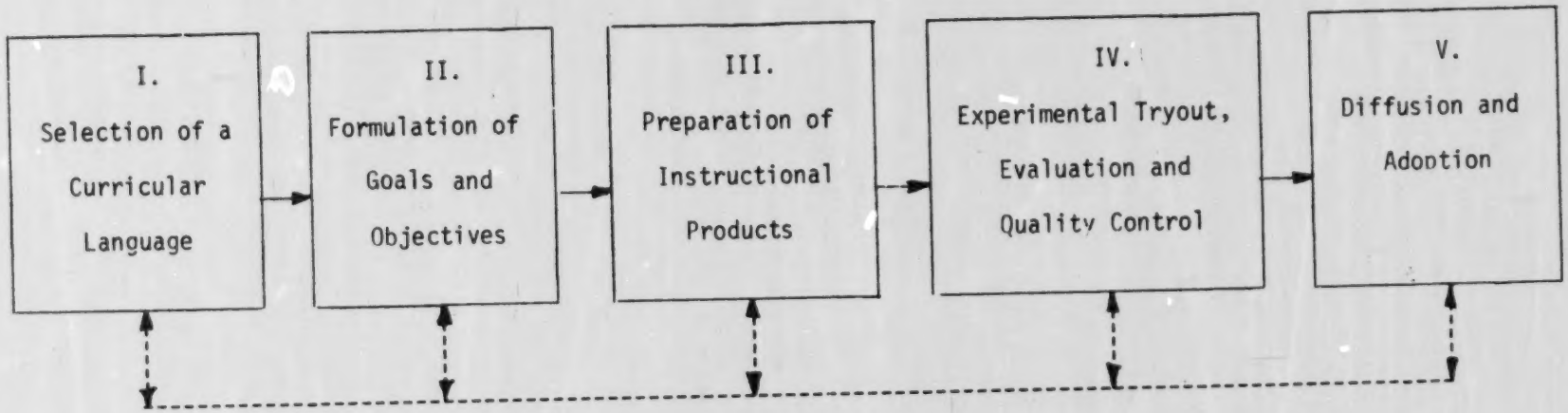

Figure 3

Source: Bailey, L. J., and Stadt, R. W., Career Education: New Approaches to Human Development, McKnight and McKnight, 1973, p. 309.

I. Selection of a curricular language

"Perhaps the most important decision made by a project are those concerning basic purpose and those involving basic value judgments" (Grobman, 1970, p. 64). Included in a project's curricular language are statements of purpose, rationale, moral and value judgments, assumptions, and beliefs about educational and learning theory. The formulation of a curricular language defines the unique orientation of a project. It also provides the base for stating goals and objectives, and influences the selection of content and the type of instructional materials developed.

II. Formulation of goals and objectives

Curriculum construction involves the process of moving from very global statements of desired program behaviors to intermediate-level statements which specify the blocks from which the educational program will be constructed (Krathwohl, 1965). Several levels of description are necessary for careful planning for education.

Krathwohl (1965) provides a system for describing objectives at three levels of generality:

1. The first and most abstract level is the general statement. This is the most helpful in the development of programs of instruction or the laying out of types of courses and areas to be covered. These are goals toward which several years of education might be aimed or for which an entire unit such as an elementary, junior, or senior high school might strive.
2. The second and more concrete level is referred to as behavioral objectives. These help to analyze broad goals into more specific

ones which are useful as the building blocks for instructional units.

3. Third, there is a level needed to create instructional materials. This kind of detailed analysis brings into focus the objectives to be achieved for a specific lesson.

This manner of ordering objectives is representative of contemporary curriculum theory and technology. Although some authors prefer substitute terms there are few substantial differences among those who write about educational objectives. The important thing for the curriculum developer to keep in mind is the necessity for having clear statements of observable student behavior.

III. Preparation of Instructional Products

"If curriculum is a plan for learning, and if objectives determine what learning is important, then it follows that adequate curriculum planning involves selecting and organizing both the content and learning experiences: (Taba, 1962, p. 266). Up to now, the concern has been with the ends to be attained by curriculum. It is now appropriate to consider how these ends may be achieved.

Whereas the tasks involved in the selection of a curricular language and in the formulation of goals and objectives can be described systematically, the preparation of initial instructional materials is more difficult to characterize. Grobman (1970) explains that there is no single pattern to previous developmental curriculum efforts. He notes that a possible reason may be that projects have not made clear and systematic choices with knowledge of available alternatives. Even though it is not

possible to provide exact strategies for developing instructional materials, it is possible to describe the decision points which must be met head on.

1) To what degree will the existing subject areas, grade level placement, facilities, and media formats be accepted?

2) Who is the target audience, i.e., which students, teachers, and schools?

3) Will materials be developed as independent units or a sequential course?

4) With respect to personnel: how many and what kinds of people will be involved; who makes the ultimate editorial decision; who reports to whom; how are assignments made and who reviews what; will writers work individually, in pairs, or in teams?

5) How much time will be expended on the writing effort?

6) Are auxiliary staff available to provide supporting services and assistance to writers?

7) How will materials be reviewed for quality control? (Grobman, pp. 119-139)

The difficulties involved in predicting which combination of conditions and personnel will make for the most satisfactory products leads to the following conclusion: any alleged curriculum development effort which plunges headfirst into materials development without clear statements of basic purpose, program goals, and behavioral objectives, together with supporting theory and rationale, should be viewed with considerable suspicion.

IV. Experimental Tryout, Evaluation, and Quality Control

Most curriculum development projects make provisions for testing their materials. As might be expected, the quality of testing depends on many factors, e.g., (1) available personnel and financial resources, (2) the degree to which materials depart from conventional practice, (3) amount of

advance planning, (4) the availability and willingness of local education agencies to participate.

The practical and functional orientation of this paper, together with space limitations, prohibits any extensive discussion of the processes involved in trying out, evaluation, feedback and quality control of materials preparation. The reader is urged to pursue Bloom et al (1971), Tyler et al (1967), and Grobman (1970) for a more comprehensive treatment. In addition, the 21 product development reports prepared by the American Institutes for Research should be consulted for a detailed and accurate picture of events in the development of many of the more notable exemplary research and development projects.

V. Diffusion and Adoption

The implementation of a curriculum project should begin the first moment the project is formulated. One cannot ignore all of the influencing factors that surround a curriculum project if the goal of implementation is to be achieved. The implementation of curriculum project is dependent upon two main factors:

1. The ability of the creator and implementer to understand and correlate the important elements of the curriculum content.
2. The ability to communicate the content in an accurate, efficient, and effective manner to influence a positive decision. Therefore, dissemination of an innovation program cannot be an afterthought of product development.

Selling a relevant career development program means selling change. People and institutions may resist change; surely they will resist being

changed. It is, therefore, important that the curriculum planning team identify the barriers to curriculum change. Product development and the strategy for curriculum implementation should create solutions to all major barriers (objections) to successful curriculum change.

Summary

This section has attempted to summarize the contemporary fundamentals of curriculum development. More specifically, a general curriculum model has been suggested. It provides the curriculum project with an operational vehicle for developing its career education curriculum and instructional materials. The model and related discussion provide strategies which have proven to be successful. The following additional "cautions" should be considered during the planning and policymaking stage of a curriculum development program. One or more of them have been the downfall of many curriculum projects:

Don't design a program away from the basic school practices such as grade level, length of class time, or the number of days in a semester or year.

Don't forget to utilize existing facilities.

Don't begin product development before a decision-making model has been structured.

Don't involve an unmanageable number of field test centers.

Don't develop a program without valid field testing.

Don't engage in premature publicity.

Don't assume that good program content or methodology is the single ingredient for implementation success.

Don't let theory run away with practice.

Don't omit significant groups such as industry, other disciplines, teachers, minorities, parents, or businesses.

Don't let any single group dominate.

Don't retain program elements that field tests reject because "we have always done it this way", or "it's such a beautiful idea".

Don't be satisfied with "better than it was" -- focus on relevant behavior objectives and instructional goals. (Dale, 1971).